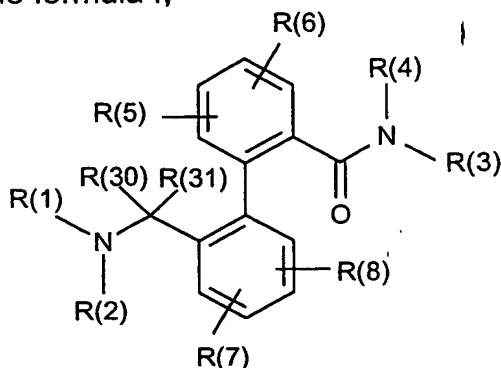


We claim:

1. A compound of the formula I,



5

in which:

R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11), C(O)NR(12)R(13) or C(S)NR(12)R(13);

R(9) is C<sub>x</sub>H<sub>2x</sub>-R(14);

10

x is 0, 1, 2, 3 or 4,

where x cannot be 0 if R(14) is OR(15) or SO<sub>2</sub>Me;

R(14) is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, 10 or 11 carbon atoms, CF<sub>3</sub>, C<sub>2</sub>F<sub>5</sub>, C<sub>3</sub>F<sub>7</sub>, CH<sub>2</sub>F, CHF<sub>2</sub>, OR(15), SO<sub>2</sub>Me, phenyl, naphthyl, biphenyl, furyl, thienyl or an N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

15

where phenyl, naphthyl, biphenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

20

25

R(15) is alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub> or phenyl which is unsubstituted or substituted by 1, 2 or 3

30

substituents selected from the group consisting of F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

5

R(10), R(11) and R(12)

independently of one another are defined as R(9);

10

R(13) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF<sub>3</sub>;

R(2) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF<sub>3</sub>;

R(3) is C<sub>y</sub>H<sub>2y</sub>-R(16);

y is 0, 1, 2, 3 or 4,

where y cannot be 0 if R(16) is OR(17) or SO<sub>2</sub>Me;

15

R(16) is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, 10 or 11 carbon atoms, CF<sub>3</sub>, C<sub>2</sub>F<sub>5</sub>, C<sub>3</sub>F<sub>7</sub>, CH<sub>2</sub>F, CHF<sub>2</sub>, OR(17), SO<sub>2</sub>Me, phenyl, naphthyl, furyl, thienyl or an N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

20

where phenyl, naphthyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

25

R(17) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub>, phenyl or 2-, 3- or 4-pyridyl,

30

where phenyl or 2-, 3- or 4-pyridyl are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms,

35

dimethylamino, sulfamoyl, methylsulfonyl  
and methylsulfonylamino;

or

R(3) is CHR(18)R(19);

5 R(18) is hydrogen or  $C_zH_{2z}-R(16)$ , where R(16) is defined as indicated above;

z is 0, 1, 2 or 3;

10 R(19) is COOH, CONH<sub>2</sub>, CONR(20)R(21), COOR(22), or CH<sub>2</sub>OH; R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms,  $C_vH_{2v}-CF_3$  or  $C_wH_{2w}$ -phenyl,

where the phenyl ring is unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

15 v is 0, 1, 2 or 3;

20 w is 0, 1, 2 or 3;

R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(4) is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or CF<sub>3</sub>;

25 or

R(3) and R(4)

together are a chain of 4 or 5 methylene groups, of which one methylene group can be replaced by -O-, -S-, -NH-, -N(methyl)- or -N(benzyl)-;

30 R(5), R(6), R(7) and R(8)

independently of one another are hydrogen, F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl or methylsulfonylamino;

35 R(30) and R(31)

independently of one another are hydrogen or alkyl having 1, 2 or 3 carbon atoms;

or

R(30) and R(31)

together form a chain of 2 methylene groups;  
or a pharmaceutically acceptable salt thereof.

5 2. A compound as claimed in claim 1, in which

R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13);

R(9) is C<sub>x</sub>H<sub>2x</sub>-R(14);

x is 0, 1, 2, 3 or 4,

where x cannot be 0 if R(14) is OR(15);

10 R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, C<sub>2</sub>F<sub>5</sub>, OR(15), phenyl, furyl, thienyl or an N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

15 where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, 20 alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

25 R(15) is alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub> or phenyl,

30 which is unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, 35 alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(10), R(11) and R(12)

independently of one another are defined as R(9);

R(13) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF<sub>3</sub>;

R(2) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF<sub>3</sub>;

R(3) is C<sub>y</sub>H<sub>2y</sub>-R(16);

5 y is 0, 1, 2, 3 or 4,

where y cannot be 0 if R(16) is OR(17);

R(16) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, C<sub>2</sub>F<sub>5</sub>, OR(17), phenyl, furyl, thienyl or an N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

10 where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

20 R(17) is alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub>, phenyl or 2-, 3-, or 4-pyridyl,

25 where phenyl or 2-, 3- or 4-pyridyl are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

30

or

R(3) is CHR(18)R(19);

R(18) is hydrogen or C<sub>z</sub>H<sub>2z</sub>-R(16), where R(16) is defined as indicated in claim 1 above;

35 z is 0, 1, 2 or 3;

R(19) is CONH<sub>2</sub>, CONR(20)R(21), COOR(22), CH<sub>2</sub>OH;

R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, C<sub>v</sub>H<sub>2v</sub>-CF<sub>3</sub> or C<sub>w</sub>H<sub>2w</sub>-phenyl,

- 5 where the phenyl ring is unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;
- 10 v is 0, 1, 2 or 3;  
w is 0, 1, 2 or 3;
- R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms;
- R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;
- 15 R(4) is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or CF<sub>3</sub>; and
- R(5), R(6), R(7) and R(8) independently of one another are hydrogen, F, Cl, Br, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4
- 20 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl or methylsulfonylamino;
- R(30) and R(31) independently of one another are hydrogen or alkyl having 1, 2 or 3 carbon atoms;
- 25 or
- R(30) and R(31) together form a chain of 2 methylene groups.
- 30 3. A compound as claimed in claim 2, in which:
- R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13);
- R(9) is C<sub>x</sub>H<sub>2x</sub>-R(14);
- x is 0, 1, 2, 3 or 4,
- where x cannot be 0 if R(14) is OR(15);
- 35 R(14) is cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, OR(15), phenyl, furyl, thienyl or an N-containing heteroaromatic having 3, 4 or 5 carbon atoms,

- where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;
- 5 R(15) is alkyl having 1 or 2 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub> or phenyl, which is unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;
- 10 R(10), R(11) and R(12) independently of one another are defined as R(9);
- 15 R(13) is hydrogen;
- R(2) is hydrogen or alkyl having 1, 2 or 3 carbon atoms;
- R(3) is CHR(18)R(19);
- 20 R(18) is hydrogen or C<sub>z</sub>H<sub>2z</sub>-R(16);
- 25 z is 0, 1, 2 or 3;
- R(19) is CONH<sub>2</sub>, CONR(20)R(21), COOR(22) or CH<sub>2</sub>OH;
- 30 R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, C<sub>v</sub>H<sub>2v</sub>-CF<sub>3</sub> or C<sub>w</sub>H<sub>2w</sub>-phenyl, where the phenyl ring is unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;
- 35 v is 0, 1, 2 or 3;
- w is 0, 1, 2 or 3;

R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(16) is alkyl having 1, 2 or 3 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, OR(17), phenyl, furyl, thienyl or an N-containing heteroaromatic having 3, 4 or 5 carbon atoms,

where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(17) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub>, phenyl or 2-, 3- or 4-pyridyl,

where phenyl or 2-, 3- or 4-pyridyl are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(4) is hydrogen or alkyl having 1 or 2 carbon atoms; and

R(5), R(6), R(7) and R(8)

independently of one another are hydrogen, F, Cl, Br, CF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl or methylsulfonylamino;

R(30) and R(31)

independently of one another are hydrogen or methyl;



or

R(30) and R(31)

together form a chain of 2 methylene groups.

5

4. A compound as claimed in claim 2, in which:

R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13);

R(9) is C<sub>x</sub>H<sub>2x</sub>-R(14);

x is 0, 1, 2, 3 or 4,

10

where x cannot be 0 if R(14) is OR(15);

R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, OR(15), phenyl, furyl, thienyl or an N-containing heteroaromatic having 3, 4 or 5 carbon atoms,

15

where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

20

R(15) is alkyl having 1 or 2 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub> or phenyl,

25

which is unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

30

35

R(10), R(11) and R(12)

independently of one another are defined as R(9);

R(13) is hydrogen;

- R(2) is hydrogen or alkyl having 1, 2 or 3 carbon atoms;  
 R(3) is  $C_yH_{2y}-R(16)$ ;  
     y is 0, 1, 2, 3 or 4,  
     where y cannot be 0 if R(16) is OR(17);  
 5 R(16) is alkyl having 1, 2 or 3 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms,  $CF_3$ , OR(17), phenyl, furyl, thienyl or an N-containing heteroaromatic having 3, 4 or 5 carbon atoms,  
     where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by  
 10 1 or 2 substituents selected from the group consisting of F, Cl, Br,  $CF_3$ ,  $OCF_3$ , CN, COOMe,  $CONH_2$ , COMe,  $NH_2$ , OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;  
 15 R(17) is alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms,  $CF_3$ , phenyl or 2-, 3- or 4-pyridyl,  
 20 where phenyl or 2-, 3- or 4-pyridyl are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br,  $CF_3$ ,  $OCF_3$ ,  $NO_2$ , CN, COOMe,  $CONH_2$ , COMe, OH, alkyl having 1, 2, 3 or 4 carbon atoms,  
 25 alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;  
 R(4) is hydrogen or alkyl having 1 or 2 carbon atoms;  
 R(5), R(6), R(7) and R(8)  
 30 independently of one another are hydrogen, F, Cl, Br,  $CF_3$ , CN, COOMe,  $CONH_2$ , COMe,  $NH_2$ , OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl or methylsulfonylamino;  
 R(30) and R(31)  
 35 independently of one another are hydrogen or methyl;  
 or  
 R(30) and R(31)  
     together form a chain of 2 methylene groups.

5. A compound as claimed in claim 4, in which:

R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13);

5 R(9) is C<sub>x</sub>H<sub>2x</sub>-R(14);

x is 0, 1, 2 or 3;

R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, phenyl or pyridyl,

10 where phenyl and pyridyl are unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, CF<sub>3</sub>, OCF<sub>3</sub>, OH, alkyl having 1, 2 or 3 carbon atoms and alkoxy having 1 or 2 carbon atoms;

15 R(10), R(11) and R(12)

independently of one another are defined as R(9);

R(13) is hydrogen;

R(2) is hydrogen;

20 R(3) is C<sub>y</sub>H<sub>2y</sub>-R(16);

y is 0, 1 or 2;

R(16) is alkyl having 1, 2 or 3 carbon atoms, cycloalkyl having 5 or 6 carbon atoms, CF<sub>3</sub>, phenyl or pyridyl,

25 where phenyl and pyridyl are unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, CF<sub>3</sub>, OCF<sub>3</sub>, OH, alkyl having 1, 2 or 3 carbon atoms and alkoxy having 1 or 2 carbon atoms;

R(4) is hydrogen; and

30 R(5), R(6), R(7) and R(8)

independently of one another are hydrogen, F, CF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, NH<sub>2</sub>, OH, alkyl having 1, 2 or 3 carbon atoms or alkoxy having 1 or 2 carbon atoms;

R(30) and R(31)

35 independently of one another are hydrogen or methyl;

or

R(30) and R(31)

together form a chain of 2 methylene groups.

6. A compound as claimed in claim 5, in which:

R(1) is C(O)OR(9) or COR(11);

R(9) is  $C_xH_{2x}-R(14)$ ;

5 x is 0, 1, 2 or 3;

R(14) is cycloalkyl having 5 or 6 carbon atoms or phenyl,  
where phenyl is unsubstituted or  
substituted by 1 or 2 substituents selected  
from the group consisting of F, Cl,  $CF_3$ ,  
10  $OCF_3$ , alkyl having 1, 2 or 3 carbon atoms  
and alkoxy having 1 or 2 carbon atoms;

R(11) is defined as R(9);

R(2) is hydrogen;

R(3) is  $C_yH_{2y}-R(16)$ ;

15 y is 0, 1 or 2;

R(16) is alkyl having 1, 2 or 3 carbon atoms, cycloalkyl having 5  
or 6 carbon atoms,  $CF_3$ , phenyl or pyridyl

20 where phenyl and pyridyl are unsubstituted or  
substituted by 1 or 2 substituents selected from the  
group consisting of F, Cl,  $CF_3$ ,  $OCF_3$ , alkyl having  
1, 2 or 3 carbon atoms and alkoxy having 1 or 2  
carbon atoms;

R(4) is hydrogen; and

R(5), R(6), R(7) and R(8)

25 independently of one another are hydrogen, F,  $CF_3$ , alkyl having 1,  
2 or 3 carbon atoms or alkoxy having 1 or 2 carbon atoms;

R(30) and R(31)

are hydrogen.

30

7. A pharmaceutical composition, comprising an effective amount of at  
least one compound as claimed in claim 1 together with a pharmaceutically  
acceptable vehicle or additive.

35 8. A pharmaceutical composition as claimed in claim 7, which further  
comprises one or more other pharmacologically active compounds.

9. A method for the prophylaxis or therapy of a  $K^+$  channel-mediated illness,

which comprises administering to a host in need of the prophylaxis or therapy an effective amount of a compound as claimed in claim 1.

5 10. A method for the therapy or prophylaxis of a cardiac arrhythmia which can be eliminated by action potential prolongation, which comprises administering to a host in need of the therapy or prophylaxis an effective amount of a compound as claimed in claim 1.

10 11. A method for the therapy or prophylaxis of a re-entry arrhythmia, which comprises administering to a host in need of the therapy or prophylaxis an effective amount of a compound as claimed in claim 1.

15 12. A method for the therapy or prophylaxis of a supraventricular arrhythmia, which comprises administering to a host in need of the therapy or prophylaxis an effective amount of a compound as claimed in claim 1.

20 13. A method for the therapy or prophylaxis of atrial fibrillation or atrial flutter, which comprises administering to a host in need of the therapy or prophylaxis an effective amount of a compound as claimed in claim 1.

14. A method for terminating existing atrial fibrillation or flutter to restore sinus rhythm, which comprises administering to a host in need of the termination an effective amount of a compound as claimed in claim 1.

25 15. A pharmaceutical composition as claimed in claim 7, which further comprises an effective amount of an IKr channel blocker.

16. A pharmaceutical composition as claimed in claim 7, which further comprises an effective amount of an IKs channel blocker.

30 17. A pharmaceutical composition as claimed in claim 7, which further comprises an effective amount of a beta-blocker.

35 18. A compound as claimed in claim 1, in which:  
 R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13);  
       R(9) is C<sub>x</sub>H<sub>2x</sub>-R(14);  
           x is 0, 1, 2, 3 or 4,  
           where x cannot be 0 if R(14) is OR(15);

R(14) is cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, OR(15), phenyl, furyl, thienyl or an N-containing heteroaromatic having 3, 4 or 5 carbon atoms,

5 where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

10 R(15) is alkyl having 1 or 2 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub> or phenyl, which is unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

25 R(10), R(11) and R(12) independently of one another are defined as R(9);

R(13) is hydrogen;

R(2) is hydrogen or alkyl having 1, 2 or 3 carbon atoms;

R(3) is CHR(18)R(19);

R(18) is hydrogen or C<sub>z</sub>H<sub>2z</sub>-R(16);

30 z is 0, 1, 2 or 3;

R(19) is CONH<sub>2</sub>, CONR(20)R(21), COOR(22) or CH<sub>2</sub>OH;

35 R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, C<sub>v</sub>H<sub>2v</sub>-CF<sub>3</sub> or C<sub>w</sub>H<sub>2w</sub>-phenyl, where the phenyl ring is unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms,

dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

v is 0, 1, 2 or 3;

w is 0, 1, 2 or 3;

5 R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;

10 R(16) is alkyl having 1, 2 or 3 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, OR(17), phenyl, furyl, thienyl or an N-containing heteroaromatic having 3, 4 or 5 carbon atoms,

15 where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

20

R(17) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub>, phenyl or 2-, 3- or 4-pyridyl,

25 where phenyl or 2-, 3- or 4-pyridyl are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

30

35 R(4) is hydrogen or alkyl having 1 or 2 carbon atoms; and

R(5), R(6), R(7) and R(8)

independently of one another are hydrogen, F, Cl, Br, CF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2 or 3 carbon

atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl or methylsulfonylamino;

R(30) and R(31)

independently of one another are hydrogen or methyl;

5 or

R(30) and R(31)

together form a chain of 2 methylene groups.

10 19. A compound as claimed in claim 1, in which:

R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13);

R(9) is C<sub>x</sub>H<sub>2x</sub>-R(14);

x is 0, 1, 2, 3 or 4,

where x cannot be 0 if R(14) is OR(15);

15 R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, OR(15), phenyl, furyl, thienyl or an N-containing heteroaromatic having 3, 4 or 5 carbon atoms,

20 where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

25 R(15) is alkyl having 1 or 2 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub> or phenyl,

30 which is unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br, CF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino,

35



sulfamoyl, methylsulfonyl and  
methylsulfonylamino;

R(10), R(11) and R(12)

independently of one another are defined as R(9);

5 R(13) is hydrogen;

R(2) is hydrogen or alkyl having 1, 2 or 3 carbon atoms;

R(3) is  $C_yH_{2y}-R(16)$ ;

y is 0, 1, 2, 3 or 4,

where y cannot be 0 if R(16) is OR(17);

10 R(16) is alkyl having 1, 2 or 3 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms,  $CF_3$ , OR(17), phenyl, furyl, thienyl or an N-containing heteroaromatic having 3, 4 or 5 carbon atoms,

15 where phenyl, furyl, thienyl and the N-containing heteroaromatic are unsubstituted or substituted by 1 or 2 substituents selected from the group consisting of F, Cl, Br,  $CF_3$ ,  $OCF_3$ , CN, COOMe,  $CONH_2$ , COMe,  $NH_2$ , OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

20

R(17) is alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms,  $CF_3$ , phenyl or 2-, 3- or 4-pyridyl,

25 where phenyl or 2-, 3- or 4-pyridyl are unsubstituted or substituted by 1, 2 or 3 substituents selected from the group consisting of F, Cl, Br,  $CF_3$ ,  $OCF_3$ ,  $NO_2$ , CN, COOMe,  $CONH_2$ , COMe, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

30

R(4) is hydrogen or alkyl having 1 or 2 carbon atoms;

R(5), R(6), R(7) and R(8)

35 independently of one another are hydrogen, F, Cl, Br,  $CF_3$ , CN, COOMe,  $CONH_2$ , COMe,  $NH_2$ , OH, alkyl having 1, 2 or 3 carbon atoms, alkoxy having 1 or 2 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl or methylsulfonylamino;

R(30) and R(31)

independently of one another are hydrogen or methyl;

or

R(30) and R(31)

5 together form a chain of 2 methylene groups.